

National Institute of Genetics
Yata 1111, Misima, Sizuoka-ken
Japan
Jan. 12, 1954

Dr. Joshua Lederberg
Genetics Department
University of Wisconsin
Madison, Wisconsin
U. S. A.

Dear Dr. Lederberg:

I am very grateful to you for your kind information and advise on the competition for a research assistantship. I will send you a formal application with letters of reference as soon as possible when I shall receive it. I shall be very glad if they were considered for the competition.

My chief interest is in the biochemical mechanism of mutation, and I am using the biochemical mutants of *Ustilago* for neither biochemical analysis of some metabolic processes nor genetical analysis of *Ustilago* but studying the nature of the mutational processes. The interesting information in this field may be obtained from the researches on the relations between induced mutation and chemical mutagen. I have studied mainly along this direction since; but the actions of the mutagens are always none-specific and indirect, and such research seems always a gap between chemical action and genetic change in spite of many skilful work by Dr. Demerec and others. When I have read your papers on transduction I have thought that this phenomenon may be useful for supplying the gap mentioned above, because it has been proved on the more common heritable characters than transformation and, as though it is regarded as a sort of recombination rather than directed induced mutation, it points out that there are more specific and direct relations between transmissible agent and genetic change than the case of chemical mutagen and induced mutation. I have interested on the phenomenon since, and I think that I shall be very happy if I can study in your laboratories such problems as the genetical signification of transduction, for example the mechanism of the action of transmissible agent or the comparison among recombination unit, transduction unit and mutation unit. I also think that the learning of the special techniques in bacterial genetics which developed in your laboratory, e.g. recombination analysis, screening of mutant, single cell isolation and others, are very useful for my research in future, because they are indispensable for the detailed research on bacterial mutation and may be applied to the genetical study of the single-cell organisms other than bacteria.

I am going to apply for the Fulbright travelling grant in the spring competition, and I shall be very glad if you would kindly tell me the time when the result of the competition for the research assistantship is informed.

Thanking you heartly,
Yours sincerely

Tetsuo Iino
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